What is Claimed:

1.   A resource management system for a host computer, comprising:

a resource database for storing indices to system resources of said host computer;

a resource management software application that assigns system resources of said host computer and maintains a memory allocation page map of said resource database including indices to the assigned system resources in said resource database,

wherein said memory allocation page map is organized according to a tiered page size model including a hierarchy of scales using 2^x as a scaling factor whereby an index page at each tiered page size level may allocate 2^x memory blocks at a size of the next lower tiered page size level.

2.   The resource management system of claim 1, wherein said resource management software application stores a descriptor for each assigned system resource at an index [G,M,K] in said memory allocation page map defined as $Mem(G,M,K) = ((G*2^{10} +M)*2^{10}+K)*2^{10}*(word\ size)$, where word size is a power of 2.

3.   The resource management system of claim 2, wherein x=10 and wherein a descriptor is stored in said memory allocation page map as a 32 bit index (2, 10, 10, 10) into a map of 4k pages that identifies the descriptor with said index, where a first bit indicates suballocation in smaller pages and three successive 2^{10} values identify scaled pages.

4.   A method of managing memory of a host computer, comprising the steps of:

storing indices to system resources of said host computer in a resource database;

maintaining a memory allocation page map of said resource database including indices to assigned system resources in said resource database; and

organizing said memory allocation page map according to a tiered page size model including a hierarchy of scales using 2^x as a scaling factor whereby an index page at each tiered page size level may allocate 2^x memory blocks at a size of the next lower tiered page size level.

5.   The method of claim 4, further comprising the step of storing a descriptor for each assigned system resource at an index [G,M,K] in said memory allocation page map defined as $Mem(G,M,K) = ((G*2^{10} +M)*2^{10}+K)*2^{10}*(word\ size)$, where word size is a power of 2.

6.   The method of claim 5, wherein x=10 and said storing step comprises storing a descriptor in said memory allocation page map as a 32 bit index (2, 10, 10, 10) into a map of 4k pages that identifies the descriptor with said index, where a first bit indicates suballocation in smaller pages and three successive 2^{10} values identify scaled pages.